

METHOD, SYSTEM, AND APPARATUS FOR COMMUNICATING WITH  
A RFID TAG POPULATION

ABSTRACT

A method, system, and apparatus for communicating with a radio frequency identification (RFID) tag population that includes one or more tags are described. The tags are interrogated by a reader which may be located in a network of readers. The reader interrogates the tags by transmitting data symbols to the tags. Tags respond to the reader with backscatter symbols. Bit patterns, such as identification numbers stored in the tags, are collected from the plurality of tags without collisions. Collisions are avoided because the backscatter symbols transmitted by the tags use different characteristics to represent different data bits. For example, a first backscatter symbol frequency is used by the tag to represent a "0" bit, and a second backscatter symbol frequency is used by the tag to represent a "1" bit.

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